

REMARKS

The present Amendment amends claims 1-8 and 10-18 and leaves claim 9 unchanged. Therefore, the present application has pending claims 1-18.

The disclosure stands objected to due to informalities noted by the Examiner in paragraph 4 of the Office Action. Amendments were made to the specification to correct the informalities noted by the Examiner and other minor grammatical and editorial errors discovered upon review. Therefore, this objection is overcome and should be withdrawn.

Claim 13 stands rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Various amendments were made throughout claim 13 to bring it into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection with respect to claim 13 is overcome and should be withdrawn.

Specifically, amendments were made throughout claim 13 to overcome the objections noted by the Examiner in the Office Action.

Claims 1-4, 7, 8, 10-12 and 15-18 stand rejected under 35 USC §102(e) as being anticipated by Prakash (U.S. Patent Application Publication No. 2002/0165868); claims 5, 9, 13 and 14 stand rejected under 35 USC §103(a) as being unpatentable over Prakash and further in view of Yoshida (article entitled "The Hitachi Freedom Storage Lighting 9900 for Optimized Storage Area Networks"); and claim 6 stands rejected under 35 USC §103(a) as being unpatentable over Prakash and further in view of Christie (U.S. Patent No. 5,757,669). These rejections are traversed for the following

reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-18 are not taught or suggested by Prakash, Yoshida or Christie whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to the claims to more clearly describe features of the present invention. Particularly amendments were made to the claims to more clearly recite that the present invention is directed to a database system including a center server, a single or plurality of local servers, a first network for mutually connecting the center server and the local servers, a plurality of local storage systems for storing local databases managed by the local servers, a center storage system for storing replications of the local databases and a second network for connecting the center server, the center storage subsystem, the local servers and the local storage subsystems.

The center server according to the present invention includes replication requesting means for sending a database replication request to each of the local servers for requesting the local servers to replicate the local databases and data consolidating means for performing a process of consolidating the replicated local databases so that the center server can access to a plurality of replicated databases of the local databases at substantially the same timing in a consolidated manner in the center storage subsystem.

Further, according to the present invention each local servers includes local database freeze requesting means responsive to the database

replication request to request a database management system to freeze the local database and database and database replicating means for causing the local storage subsystem to replicate, in the center storage subsystem, the local database stored in the local storage subsystem and the local servers controls to freeze to the local database in response to the database replication request by inhibiting subsequent updates and stopping sending of update data to the center server wherein the update data is used to update replicated local databases representing replications of the local databases.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention now more clearly recited in the claims are not taught or suggested by Prakash, Yoshida or Christie whether taken individually or in combination with each other as suggested by the Examiner.

Prakash teaches a system and method of information backup in a storage system wherein the system includes at least one storage device, a primary server for granting and denying a global lock to the at least one storage and at least one secondary server including internal tables for storing information relating to the storage in the at least one storage device. As taught by Prakash, the at least one secondary server upon requesting a global lock from the primary server and after the global lock is granted by the primary server, the at least one secondary server checks its own internal tables to determine whether access to the at least one storage device can be granted.

Prakash teaches, for example, in paragraph [0086] that when a new slave job is detected, the job engine communicates with the tape engine if a tape drive is available to begin backing up. This continues as taught by Prakash until a tape device is determined to be available once a tape device is determined to be available the smaller slave jobs are started for each job having an available storage device. Further teaching concerning this feature can be found in paragraphs [0098] through [0099] and in paragraph [0122].

However, the above described teachings of Prakash do not anticipate nor render obvious the features of the present invention now more clearly recited in the claims. Particularly, there is no teaching or suggestion in Prakash of the above described features of the present invention now more clearly recited in the claims with respect to the center server sending a database replication request to each local server and the consolidating of the replicated local databases so that the center server can access to a plurality of replicated data databases of the local databases at substantially the same timing in a consolidated manner in the center storage subsystem.

Further, there is no teaching or suggestion Prakash that the local server in response to the database replication request controls to freeze the local database by inhibiting subsequent updates of the local database and stopping the sending of update data to the center server. In the present invention the update data is used to update replicated local databases representing replication of the local databases. These features of the present invention are clearly not taught or suggested by Prakash.

Thus, Prakash fails to teach or suggest that the center server includes replication requesting means for sending a database replication request to

each of the local servers for requesting the local server to replicate the local databases and data consolidating means for performing a process of consolidating the replicated local databases so that the center server can access to a plurality of replicated databases of the local databases at substantially the same timing in consolidated manner in the center storage subsystem as recited in the claims.

Further, Prakash fails to teach or suggest that the local server controls to freeze the local database in response to the database replication request by inhibiting subsequent updates of the local database and stopping sending of update data to the center server, wherein the update data is used to update replicated local databases representing replications of the local databases as recited in the claims.

Therefore, as indicated above, Prakash fails to teach or suggest the features of the present invention now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §102(e) rejection of claims 1-4, 7, 8, 10-12 and 15-18 as being anticipated by Prakash is respectfully requested.

The above described deficiencies of Prakash are not supplied by any of the other references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by Yoshida or Christie.

In the Office Action the Examiner merely relies upon Yoshida for an alleged teaching of the use of shadow images. However, it is quite clear from the teachings of Yoshida there is no disclosure of the above described features present invention now more clearly recited in the claims regarding

the elements included within the center server, namely the replication requesting unit and the data consolidating unit, and the functions performed by the local server with regarding freezing the local database and not sending update data to the center server.

Christie is merely relied upon by the Examiner for an alleged teaching of a replicating source managing table. However, Christie the same as Yoshida, fails to teach or suggest numerous features of the present invention as now more clearly recited in the claims regarding the elements included within the center server and the functions performed by each of the local servers.

Thus, both Yoshida and Christie fail to teach or suggest the features of the present invention as now more clearly recited in the claims. Since both Yoshida and Christie suffer from the same deficiencies relative to the features of the present invention as now more clearly recited in the claims, combining Prakash with one or more of Yoshida and Christie still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 5, 9, 13 and 14 as being unpatentable over Prakash in view of Yoshida and the 35 USC §103(a) rejection of claim 6 as being unpatentable over Prakash in view of Christie is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-18.

In view of the foregoing amendments and remarks, applicants submit that claims 1-18 are in condition for allowance. Accordingly, early allowance of claims 1-18 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.43001X00).

Respectfully submitted,

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